

**COGNEX®**

---

VisionPro 9.23

About This Release

1/12/2025  
Version 1.0

The software described in this document is furnished under license, and may be used or copied only in accordance with the terms of such license and with the inclusion of the copyright notice shown on this page. Neither the software, this document, nor any copies thereof may be provided to, or otherwise made available to, anyone other than the licensee. Title to, and ownership of, this software remains with Cognex Corporation or its licensor. Cognex Corporation assumes no responsibility for the use or reliability of its software on equipment that is not supplied by Cognex Corporation. Cognex Corporation makes no warranties, either express or implied, regarding the described software, its merchantability, non-infringement or its fitness for any particular purpose.

The information in this document is subject to change without notice and should not be construed as a commitment by Cognex Corporation. Cognex Corporation is not responsible for any errors that may be present in either this document or the associated software.

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, nor transferred to any other media or language without the written permission of Cognex Corporation.

Copyright © 2025 Cognex Corporation. All Rights Reserved.

Portions of the hardware and software provided by Cognex may be covered by one or more of the U.S. and foreign patents listed below as well as pending U.S. and foreign patents. Such pending U.S. and foreign patents issued after the date of this document are listed on Cognex web site at <http://www.cognex.com/patents>.

## VisionPro

5481712, 5495537, 5548326, 5583954, 5602937, 5640200, 5751853, 5768443, 5825913, 5850466, 5872870, 5901241, 5943441, 5978080, 5978521, 5987172, 6005978, 6039254, 6064388, 6075881, 6137893, 6141033, 6167150, 6215915, 6240208, 6324299, 6381366, 6381375, 6411734, 6421458, 6459820, 6490375, 6516092, 6563324, 6658145, 6687402, 6690842, 6697535, 6718074, 6748110, 6771808, 6804416, 6836567, 6850646, 6856698, 6920241, 6959112, 6963338, 6973207, 6975764, 6985625, 6993177, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7190834, 7242801, 7251366, 7313761, EP0713593, JP3522280, JP3927239

## DataMan

5742037, 5943441, 6215915, 6236769, 6282328, 6381375, 6408109, 6457032, 6690842, 6941026, 7175090, 7181066, 7412106, 7427028, 7549582, 7604174, 7614563, 7617984, US-2005-0087601-A1, US-2006-0131418-A1, US-2006-0131419-A1, US-2006-0133757-A1, US-2007-0091332-A1, US-2007-0152064-A1, US-2007-0170259-A1, US-2008-0004822-A1, US-2008-0011855-A1, US-2008-0142604-A1, US-2008-0143838-A1, US-2008-0158365-A1, US-2009-0090781-A1, US-2009-0108073, US-2009-0121027-A1, US-2009-0166424-A1, US-2009-0294541-A1, WO06065619A1, EP1687752

## CVL

5495537, 5548326, 5583954, 5602937, 5640200, 5717785, 5751853, 5768443, 5825483, 5825913, 5850466, 5859923, 5872870, 5901241, 5943441, 5949905, 5978080, 5987172, 5995648, 6002793, 6005978, 6064388, 6067379, 6075881, 6137893, 6141033, 6157732, 6167150, 6215915, 6240208, 6240218, 6324299, 6381366, 6381375, 6408109, 6411734, 6421458, 6457032, 6459820, 6490375, 6516092, 6563324, 6658145, 6687402, 6690842, 6718074, 6748110, 6751361, 6771808, 6798925, 6804416, 6836567, 6850646, 6856698, 6920241, 6959112, 6975764, 6985625, 6993177, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7190834, 7242801, 7251366, EP0713593, JP3522280, JP3927239

## VGR

5495537, 5602937, 5640200, 5768443, 5825483, 5850466, 5859923, 5949905, 5978080, 5995648, 6002793, 6005978, 6075881, 6137893, 6141033, 6157732, 6167150, 6215915, 6324299, 6381375, 6408109, 6411734, 6421458, 6457032, 6459820, 6490375, 6516092, 6563324, 6658145, 6690842, 6748110, 6751361, 6771808, 6804416, 6836567, 6850646, 6856698, 6959112, 6975764, 6985625, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7190834, 7242801, 7251366

## OMNIVIEW

6215915, 6381375, 6408109, 6421458, 6457032, 6459820, 6594623, 6804416, 6959112, 7383536

## CVL Vision Library

5495537, 5548326, 5583954, 5602937, 5640200, 5717785, 5751853, 5768443, 5825483, 5825913, 5850466, 5859923, 5872870, 5901241, 5943441, 5949905, 5978080, 5987172, 5995648, 6002793, 6005978, 6064388, 6067379, 6075881, 6137893, 6141033, 6157732, 6167150, 6215915, 6240208, 6240218, 6324299, 6381366, 6381375, 6408109, 6411734, 6421458, 6457032, 6459820, 6490375, 6516092, 6563324, 6658145, 6687402, 6690842, 6718074, 6748110, 6751361, 6771808, 6798925, 6804416, 6836567, 6850646, 6856698, 6920241, 6959112, 6975764, 6985625, 6993177, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7190834, 7242801, 7251366, EP0713593, JP3522280, JP3927239

## SMD 4

5995648, 5850466, 6751361, 6690842, 6563324, 6490375, 5949905, 5978080, 6137893, 6167150, 6075881, 6748110, 5859923, 6411734, 6324299, 6516092, 7190834, 6658145, 6836567, 6850646, 6975764, 6985625, 6993192, 7006712, 7043081, 7058225, 7065262, 7088862, 7164796, 7251366, 6856698, 6002793, 6005978, 6771808, 6804416, 7016539, 6959112, 5602937, 7242801, 5640200, 5495537, 5768443, 5825483, 6421458, 6459820,

VisionPro 9.23 About This Release

1/12/2025 | Version 1.0

Page | 2

6215915, 6381375, 6457032, 6157732, 6408109, 6141033, 6026176, 6442291, 6151406, 6396942, 6614926, 5371690, 5845007, 5943441, 6963338, 5805722, 5909504, 5933523, 5964844, 5974169, 5987172, 6078700, 6252986, 6278796, 6307210, 6408429, 6424734, 6526165, 6571006, 6639624, 6681039, 6748104, 6813377, 6853751, 6898333, 6950548, 6993177, 7139421, 5757956

## BGA II and BGA III

5495537, 5602937, 5640200, 5768443, 5801966, 5825483, 5850466, 5859923, 5949905, 5978080, 5995648, 6002793, 6005978, 6026176, 6055328, 6075881, 6115042, 6118893, 6130959, 6137893, 6141009, 6141033, 6151406, 6157732, 6167150, 6215915, 6289117, 6324299, 6353676, 6381375, 6396942, 6408109, 6411734, 6421458, 6442291, 6457032, 6459820, 6490375, 6516092, 6563324, 6577775, 6614926, 6658145, 6690842, 6748110, 6751361, 6771808, 6804416, 6836567, 6850646, 6856698, 6959112, 6975764, 6985625, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7190834, 7242801, 7251366

## Wire Bonder

5495537, 5532739, 5581632, 5602937, 5640199, 5640200, 5642158, 5676302, 5754679, 5757956, 5768443, 5825483, 5835622, 5850466, 5859923, 5861909, 5949905, 5978080, 5991436, 5995648, 6002793, 6005978, 6035066, 6061467, 6075881, 6137893, 6141033, 6157732, 6167150, 6215915, 6289492, 6324299, 6381375, 6408109, 6411734, 6421458, 6457032, 6459820, 6490375, 6516092, 6563324, 6658145, 6690842, 6748110, 6751361, 6771808, 6804416, 6836567, 6850646, 6856698, 6959112, 6975764, 6985625, 6993192, 7006712, 7016539, 7043081, 7058225, 7065262, 7088862, 7164796, 7171036, 7190834, 7242801, 7251366

The following are registered trademarks of Cognex Corporation:

acuReader® BGAI® Check it with Checker® Checker® Cognex Vision for Industry CVC-1000® CVL® DataMan® DisplayInspect® DVT® EasyBuilder® IDMax® In-SightIn-Sight 2000® In-Sight® (insignia with cross-hairs) MVS-8000® OmniView® PatFind® PatFlex® PatInspect® PatMax® PatQuick® SensorView® SmartLearn® SmartView® SMD4® UltraLight® Vision Solutions® VisionPro® VisionView®

The following are trademarks of Cognex Corporation:

3D-Locate™ 3DMax™ CheckPoint™ Cognex VSoC™ FFD™ iLearn™ InspectEdge™ Legend™ LineMax™ NotchMax™ ProofRead™ SmartAdvisor™ SmartSync™ SmartSystem™

Other product and company names mentioned herein are the trademarks, or registered trademarks, of their respective owners.

<b>About This Release .....</b>	<b>5</b>
New Features in This Release .....	5
3D Operations Requirements .....	7
Supported Operating Systems .....	7
Supported Visual Studio Development Environments .....	8
Acquisition Platforms.....	8
Support for Cognex Designer and VisionPro Deep Learning .....	8
Security Key Firmware .....	9
Find Additional VisionPro Documentation Online.....	9
Needed Instruction Sets .....	9

## About This Release

VisionPro 9.23 contains new or changed features since the previous release of VisionPro 9.22 SR1.

### New Features in This Release

This release supports several new features

#### Increased Support for 3D-L38

This release includes complete support for the 3D-L38 including hardware and software documentation.

#### Expanded Features for the 3D-L68

This release makes the following changes regarding support for the 3D-L68:

- Adds the following new custom properties as described in the topic *3D-L68 Sensor Acquisition* in your VisionPro documentation.
  - *HighDynamicRangeMergeMode*
  - *LaserMode*
  - *BinningHorizontal*
  - *BinningVertical*
  - *AdvancedReflectionFilterMode*
- Renames the custom property *MaximumEncoderStepFrequency* to *MaximumEncoderLineFrequency*
- Replaces the *Configure\_L68\_IP* utility with *L68\_Configuration\_Tool* utility
- Includes the 3D-L68 firmware version 6.1.2.16

See the topic *3D-L68 Series Firmware Upgrades* in your VisionPro documentation for details on updating the 3D-L68 firmware

#### New SelectedSpaceName for Third-Party 3D Sensors

As of this release, all range images produced by the 3D-L68, the 3D-A5000, or any other 3D vision sensor that uses the Cognex Acquisition Integration Kit (AIK) module supports a SelectedSpaceName of "Sensor2D" instead of "@" (root space). This change ensures that range images produced by the AIK module use the same two-dimensional coordinate space as the range images produced by other Cognex 3D vision sensors, such as the DS-1000 or the 3D-L4000.

#### Support for VisionPro Deep Learning 4.0.0

This release supports Cognex VisionPro Deep Learning 4.0.0 for use with the DLRuntime tool, which allows your vision application access to all the images, vision tools and results supported by VisionPro Deep Learning (VPDL) software.

Be aware of the changes to the DLRunime tool support in this release:

- The **CogDLRuntime** classes are now based on Cognex VisionPro Deep Learning 4.0 and the Cognex VisionPro Deep Learning 4.0 Resources.

- Some .vrws files might no longer be loadable with VPDL 4.0 and this VisionPro release. Specifically, any .vrws file that contained either a Red High Detail or a Green High Detail ViDi tool will no longer load successfully.

That means that if you had persisted a CogDLRuntime operator in the *Open* state and the FileName for that operator referenced a .vrws file containing one of these tools, the operator will no longer depersist successfully but will instead have a State of *Partial*.

- This release redefines the [CogDLRuntimeToolTypeConstants](#) enumeration:
  - 0: Unknown
  - 1: Blue
  - 2: BlueRead
  - 3: RedLegacy
  - 4: GreenLegacy
  - 5: GreenStandard
  - 6: RedStandard
  - 7: AnomalyDetection
- This release removes the following API:
  - The **CogDLRuntimeRedModeConstants** enumeration
  - The **CogDLRuntimeViewRed** class properties **Mode** and **Threshold**
  - The **CogDLRuntimeViewGreenLabeled** class property **SimilarityReference**
- This release adds the following API:
  - The **CogDLRuntimeViewRed** class properties **FilteredScoreMaps** and **RegionThreshold**
  - The **CogDLRuntimeRegionThresholds** class
  - The **CogDLRuntimeViewRedLabeled** class property **HasLabeledRegion**
  - The **CogDLRuntimeViewGreen** class property **OutlierScore**
- This release updates the DLRuntime Edit Control.

**Note:** Be aware the VisionPro installer does not install the DLRuntime Tool by default. You must explicitly install the DLRuntime Tool when you install this VisionPro release. See the topic *Integrating a VPDL Runtime Workspace* in your VisionPro documentation for details on installing and using a DLRuntime Tool.

## Updates to Camera Drivers

This release includes the following camera device driver upgrades:

- Upgrade of Pleora from 3.1.16 to 6.5.0 (eBus from 4.1.16 to 7.5.0)
- Upgrade of Basler pylon runtime from 7.4.0 to 7.5.0

In addition, this release makes the following changes to the VisionPro installer regarding device drivers:

- Renames **Trevista Hardware Driver** to **Basler Framegrabber Runtime**

- Reorders the list of GigE Interface drivers

Be aware this release makes no changes to the functionality of any device drivers.

### Recommendation for GigE Vision Latency level

The property *LatencyLevel* reads or sets the latency level of the GigE Vision performance driver, with a range of 0 (lowest latency) to 3 (lowest CPU). Smaller values reduce acquisition latency and may improve reliability at the expense of higher CPU usage.

The property uses a default value of 3 but Cognex makes the following recommendations going forward:

- Set a value of 2 for 1GigE cameras to improve acquisition robustness.
- Set a value of 0 for 5GigE and 10GigE cameras.

### Dropped Support for DSMax

This release drops support for the DSMax. Contact your Cognex sales representative for more information.

### MS VC++ Redistributables

This release removes the remaining legacy MS VC++ Redistributables dependencies (2010 and 2013).

## 3D Operations Requirements

Your processor must support the AVX2 instruction set for any Cognex 3D operations.

VisionPro supports the **CPUCanExecute3D** method to return **True** if the processor in your computer is capable of executing Cognex 3D operations. Otherwise, the method returns **False**. Use the **CPUCanExecute3D** method to verify any computer you use to create or deploy your application can perform 3D operations.

## Supported Operating Systems

VisionPro supports development and deployment on single or multiprocessor machines using native languages (English, Japanese, German, Korean, and Simplified Chinese) on a variety of Windows 64-bit operating systems.

VisionPro supports 2D vision tools and features on Windows 10 Pro, Windows 10 IoT Enterprise, and Windows 11 Pro.

VisionPro supports various 3D sensors and 3D vision tools based on your 64-bit operating system:

3D Hardware/Feature	Required 64-Bit OS
VisionPro with the 3D-L38, 3D-L68, 3D-L4000, DS1000 and DS900 series sensors	Windows 10 Pro and Windows 10 IoT Enterprise, Windows 11 Pro
3D-A5000 sensor with A5000 Viewer and 3D HandEye Field Calibrator	Windows 10 Pro, Windows 11 Pro
CAD Import Tool	Windows 10 Pro, Windows 11 Pro
Cognex 3DExpress	Windows 10 Pro, Windows 11 Pro

## Supported Visual Studio Development Environments

VisionPro 9.23 supports application development and deployment using any version of Visual Studio that enables the targeting of projects to .NET Framework 4.8.

**Note:** Be aware that only versions of Visual Studio prior to and including VS2017 support adding VisionPro UI tool controls to Visual Studio WinForms Designer.

## Acquisition Platforms

Refer to the VisionPro Camera Support website

(<https://www.cognex.com/products/machine-vision/vision-software/visionpro-software/visionpro-camera-support>) for a complete list of cameras VisionPro supports. Be aware that not all acquisition platforms are supported on all operating systems.

- GigE Vision and related performance drivers
- 3D-L38 series 3D Sensors
- 3D-L68 series 3D Sensors
- 3D-A5000 3D Sensor
- DS1000 Series 3D Sensors
- 3D-L4000 Series 3D Sensors (3D-L4050, 3D-L4100, 3D-L4300, 3D-L4033)
- DS900 Series 3D Sensors
- CFG-8700 series
- USB 3.0 cameras by means of a GenTL consumer

## Support for Cognex Designer and VisionPro Deep Learning

Refer to the following for information on using Cognex Designer and VisionPro Deep Learning with VisionPro 9.23:

Designer	VisionPro 9.23 supports Designer 4.4.3 - 4.5 VisionPro Deep Learning users must update to Designer 4.5
VisionPro Deep Learning (VPDL)	Using VisionPro 9.23 and VisionPro Deep Learning on the same system requires you install both: <ul style="list-style-type: none"><li>• VPDL 4.4.0 (earlier versions of VPDL are <b>not</b> compatible)</li><li>• The VisionPro 9.23 supplemental GPU installer, which you can find in the same location on <a href="#">MyCognex</a> as the VisionPro 9.23 installer.</li></ul> <p>The VisionPro 9.23 supplemental GPU installer <b>must</b> be run after VisionPro has been installed to ensure correct operation of each product. Failure to run this installer can result in errors when executing VisionPro EL tools, VPDL tools, or both, depending on the order of execution of the tools.</p>



## Security Key Firmware

VisionPro uses a USB security key attached to your computer to ensure the software is properly authorized for use. This release supports firmware version 4.12 for VisionPro security keys. See the topic *Security Key Updates* in your installed VisionPro documentation for how to check the firmware version on your security key.

If you are using a security key with a previous version of firmware, contact Cognex Support for assistance in upgrading to the latest version. Keep your security key firmware up to date to take advantage of the latest features and improvements to Cognex software security.

## Find Additional VisionPro Documentation Online

The [VisionPro Support website](#) contains additional VisionPro documentation not included with your VisionPro installation.

## Needed Instruction Sets

The following table lists the specific instruction set your processor must support for various vision tools:

Tool	Instruction Set	Notes
PMAlign	SSE4.1	Instruction set needed for 16-bit image analysis only
PMRedLine	SSE4.1	
Any 3D operations ViDiEL tools	AVX2	Any AVX instruction sets prior to AVX2 are not sufficient for 3D operations.